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HUMBOLDT AND AMERICAN BOTANY.<sup>1</sup>—“Alexander, that is a beautiful name. I seem to recall an earth-conqueror by that name. Do you wish to be a conqueror?” “Yes, Sire,—but with my head.” So replied Alexander von Humboldt, aged eight, to King Frederick the Great. At the end of a long life there arrived in Berlin in 1857 an American, Bayard Taylor. He remarked, “I came to Berlin not to visit its museums, and galleries, its operas, its theatres, not to mingle in the gay life—but for the sake of seeing and speaking with the world’s greatest living man—Alexander von Humboldt.”

For Humboldt had seen both Bogotá and Baltimore, had conversed with Indian tribes and that student of Indian vo-

<sup>1</sup> HUMBOLDT. THE LIFE AND TIMES OF ALEXANDER VON HUMBOLDT, 1769–1859. Helmut de Terra. Alfred A. Knopf, N. Y. i-xvi, 1-386, i-ix. 8 plates, 3 maps. 1955.

cabularies, Thomas Jefferson, had climbed many of the highest peaks in tropical America and studied their faunas and floras. The historian George Bancroft wrote, "Humboldt was always the friend of young America."

The latest biography of "the greatest scientific traveller who ever lived," as Charles Darwin characterized Humboldt, has just been written by the geographer, Dr. Helmut de Terra, and beautifully produced by Alfred A. Knopf. The author has turned over materials that have long slept in Marburg and Paris, as well as the familiar sources in this country, but it is rather of some adjacent pastures still fallow that I should like to direct attention.

In 1804 at the age of thirty-five Humboldt paused in this country for eight weeks en route from Cuba to Paris, that is, at the conclusion of his great hejira to tropical America. In Philadelphia Humboldt particularly visited Prof. Benjamin Smith Barton, Benjamin Rush, and Charles Willson Peale. Peale's Philadelphia Museum, the largest of its kind in the New World, tremendously interested the young Humboldt.<sup>2</sup> He spent three weeks at Jefferson's Monticello, talking, walking, going over many matters of mutual concern. He spoke to Jefferson of having Congress purchase the museum amassed by Peale and thus establish a national collection. It was late May when the party of six, conducted by Peale, set out for Baltimore and Washington by coach. The other four were Aimé Bonpland—familiar to botanists for the abbreviation "H. B. K." which trilogy records the part played by the nephew of Humboldt's former tutor, Karl Sigismund Kunth, who did not accompany Humboldt and Bonpland—, Don Carlos Montufar of Quito, Dr. Anthony Fothergill,<sup>3</sup> and the Rev. Dr. Nicholas Collin.<sup>4</sup> The pilgrimage was not without its speechless moments. Peale's "dental bridge having broken, he rushed out to look

<sup>2</sup> For the tragic fate of Peale's historic specimens, another 'short chapter in the history of human stupidity,' see Thomas Barbour, *A NATURALIST'S SCRAPBOOK*, 91-97. 1946.

<sup>3</sup> Anthony Fothergill (1733-1813), M. D., nephew of John Fothergill, came to America about 1803. Cf. R. Hingston Fox, *DR. JOHN FOTHERGILL AND HIS FRIENDS*, 131-132. 1919.

<sup>4</sup> Nicholas (or Nils) Collin (1746-1831), student at Upsala, who arrived at Penns Neck, N. J. in 1778 and became rector of Swedish Churches in Pennsylvania. Aside from collecting seeds and plants and sending them to his native Sweden, he was interested in lead-glazing, philology, colonial history, climatology, etc. Cf. Th. Krok, *BIBLIO. BOT. SUECANA*, 131, 1925; G. G. Simpson, *AMER. PHILOS. SOC.* 86: 130. 1942, and W. J. Bell Jr., *EARLY AMERICAN SCIENCE*, 4, 15, 1955.

for a gunsmith to borrow tools to repair it. For one who had mounted the skeleton of a mammoth, this was a fast and easy job. Luckily he carried a few pieces of gold in his pocket, and so managed to mend his artificial teeth in time to rejoin the company for the rest of the evening."

Dinner at the Executive Mansion, visits with the first architect of the new capitol in Washington, Dr. William Thornton,<sup>5</sup> a conference with Secretary of the Treasury, Albert Gallatin, and a boat trip down the Potomac to Mt. Vernon (where now only Washington's negro body servant lived to tell his master's story first-hand), filled his days and evenings. Of Bonpland, then twenty-nine years of age, we should particularly like to know more, but he was eclipsed by Humboldt's overwhelming importance and handicapped by his inability to converse in English. The two visitors called on Henry Muhlenberg at Lancaster and the "American Linnaeus" packaged 160 grass specimens for Humboldt to compare with Michaux's collections at Paris. Humboldt's letter, not mentioned by de Terra, is of special interest to the botanist, it reads:

My dear and honored friend,

I use these last moments before my departure tomorrow, to express once more my heartfelt thanks to you for the great kindness which you showed me and my friends in Lancaster. Your grasses and your kind letter have come to hand and I promise to let you know Michaux's names for them. Bonpland commends himself to you with gratitude for your kind remembrance. Yesterday he had a delightful noon with your brother the worthy General. Remember me to the good Ellicott<sup>6</sup> and Mr. William Barton.<sup>7</sup> We saw the Hamilton garden with astonished delight.

Yours

most gratefully

Humboldt<sup>8</sup>

Philadelphia  
the 27th June 1804

<sup>5</sup> William Thornton (1761–1828), M. D., a close friend of Jefferson, who evidently owned a set of plant drawings. He was a founder and one-time curator of the Columbian Institute for the Promotion of Arts and Sciences. Cf. E. M. Betts, THOMAS JEFFERSON'S GARDEN BOOK, 1766–1824, 398 *et passim*, 1944.

<sup>6</sup> Andrew Ellicott (1754–1820), civil engineer, who while laying out state boundaries collected plants unfamiliar to him. A few of these are preserved in the B. S. Barton Herbarium (ANSP). Cf. W. J. Bell Jr., *op. cit.*, 55–56.

<sup>7</sup> William P. C. Barton (1786–1856), who succeeded his uncle, B. S. Barton, as professor at the University of Pennsylvania. Cf. F. W. Pennell, BARTONIA no. 21: 45. 1940.

<sup>8</sup> Paul A. W. Wallace, MUHLENBERGS OF PENNSYLVANIA, 313. 1950.

Thus we have one more distinguished visitor to the "Woodlands"! Naturally it is of particular interest to this reviewer to note that Frederick Pursh was head gardener at Hamilton's estate at the time of Humboldt's visit. When is some member of the Philadelphia Botanical Club reconstructing William Hamilton's guest book? From the good beginnings made by Sarah P. Stetson<sup>9</sup> and others this is now a practicable project.

Audubon's friend and associate, Rev. John Bachman of Charleston, was present at the dinner given in honor of Humboldt at Peale's Museum. Bachman was barely fifteen at the time and was probably invited through the influence of Alexander Wilson.

the two Bartrams, Wilson, the ornithologist, Lawson, his engraver, George Ord and a few others . . . Few speeches were made and those were short—there was no formality . . . Humboldt was then, as he was afterwards, in every society, "the observed of all observers" . . . [Bachman] saw him every day during the few days he remained in Philadelphia. He inserted my name in his note-book, and for the last sixty years we corresponded at long intervals.<sup>10</sup>

But when Humboldt finally sailed in July aboard the frigate *Favorita* down the Delaware for Bordeaux it was of Jefferson and those delightful weeks at Monticello that he recalled with special pleasure. It is not easy thoroughly to assay the influence of Humboldt's visit on Jefferson's great plan for the exploration of the West, so well advanced by the nearly completed expedition of Lewis and Clark, but it is certain that Humboldt's bold approval of Jefferson's aims gave encouragement to what was not a wholly popular program at the time.

Soon Humboldt's familiar pictorial diagram of Chimborazo demonstrating the zonation of vegetation "corresponding with its progress in different latitudes" was used as the frontispiece of a botany text published in 1829 by the vice-principal of Troy Female Seminary, Mrs. Almira H. Lincoln. Her *Familiar Lectures in Botany* enjoyed a sale of more than 275,000 copies in the succeeding forty years in the higher schools and academies of this country.

<sup>9</sup> Penna. Mag. Hist. Biog. 73: 26-33. 1949. Cf. also Thompson Westcott, HISTORIC MANSIONS AND BUILDINGS OF PHILADELPHIA, 415 *et seq.* 1877; John T. Faris, OLD GARDENS IN AND ABOUT PHILADELPHIA, 150 *et seq.*, 1932, but use with caution; J. Ewan, PROC. AMER. PHILOS. SOC. 96: 603-605. 1952.

<sup>10</sup> F. H. Herrick, AUDUBON THE NATURALIST, 2: 284-285. 1917.

Humboldt's American contacts continued throughout his lifetime. When Balduin Möllhausen, topographer and artist to Whipple's Pacific railway survey, visited Berlin with a consignment of animals for the city's zoo and paid a call on Humboldt, he met the daughter of Humboldt's valet. Later as Möllhausen crossed New Mexico with Whipple's party he wrote long love letters to Alexandra Caroline Seifert. It is generally recorded that Dr. John M. Bigelow was the botanical collector on Whipple's survey, but we find Möllhausen, in de Terra's words, "laden with plant and rock specimens for Humboldt to study." This Möllhausen material, which may represent authentic duplicates of species described from Bigelow's collections, may yet come to light. The diary of Dr. C. B. R. Kennerly, physician and zoologist to the survey, preserved in the Division of Manuscripts, Library of Congress, may hold the answer to this riddle. This is the Möllhausen called the 'German Cooper' for his immensely popular Indian love stories, travel lore, poetry, and some eighty novelettes!<sup>11</sup>

Fremont spread Humboldt's fame in this country. Using extensively and taking inspiration from Humboldt's writings, Fremont was warmed by the praise accorded his Report. Alas! the argonauts who drank the bitter waters of the 'Humboldt Sink' in the rush for gold had little praise for either Fremont or the man he honored. Latin America preserves many witnesses of its appreciation for Humboldt. Bolivar and Humboldt stand side by side not only as twin peaks in the high range above the beautiful city of Merida but in the hearts of her patriots. Bolivar, to whom Humboldt gave encouragement, said that the "learning" of his friend had "done America more good than all the conquerors." Mutis, pupil of Linnaeus, and Humboldt and Bonpland worked in adjoining houses in Bogotá, and Mutis's biographer, A. Federico Gredilla, quotes long letters that passed between them.<sup>12</sup> We are still in desperate need of a biography in English of this great figure, whose library and collections of plant drawings were said to be second only to those of Joseph Banks. Sir Robert Schomburgk's explorations

<sup>11</sup> Möllhausen's contacts with John Xantus are interesting in this connection. Cf. H. M. Madden's *XANTUS: HUNGARIAN NATURALIST IN THE PIONEER WEST*, 72, 238, 1949.

<sup>12</sup> Supplementary to Sprague's paper of 1926, cited by de Terra, cf. A. Dugand, *REV. ACAD. COLOMB.* 9 (35): 210-213. 1954.

in Guiana keenly interested Humboldt, and he was again delighted when Prince Adalbert of Prussia's *Travels* in Brazil were translated by Schomburgk. In a preface Humboldt prepared for the English edition, he remarked, "if human civilization, which is making such giant strides in North America, should ever penetrate into these fastnesses (a hope which St. Basil calls 'day-dreams of man'), the structure of this great net of rivers, from north to south, may open channels of communication such as are unknown in any other part of the world."

Humboldt was a prodigious worker: in his early sixties he was working simultaneously on the final volume of his *histoire de la géographie* of America, completing his Asiatic studies—he had travelled 9600 miles through Asiatic Russia by coach in twenty-five weeks—and was planning the first volume of his great synthesis—now seldom read—entitled *Cosmos*. His writings exceeded in bulk those of any contemporary naturalist, rivalling Buffon and Leibnitz. His later writings were ponderous and at times repetitious; Arago, the physicist, had, in fact, insisted that Humboldt really did not know how to write a book, but that he wrote endlessly, and the result was not a book "but a portrait without a frame." The Scot, William Macgillivray, composed a useful resume of his travels and researches which went into a second edition. Corresponding and writing, the "Prometheus of our time" worked on, meeting American visitors, as when Prof. Benjamin Silliman of Yale visited him in 1851, and parrying with some over-zealous investigators: in 1843 a Dresden anatomist requisitioned Humboldt's skull upon hearing of his illness! Of that skull-duggery I know no more.

"I used to admire Humboldt, now I almost worship him," wrote Charles Darwin to his teacher Professor Henslow. Darwin insisted that his entire career was a consequence of his reading Humboldt's *Narrative of Travels*. The botanist Berthold Seemann said that "by his glowing descriptions of tropical scenery" Humboldt "did more than any one living to encourage that desire for the exploration of equinoctial regions, to which we owe . . . directly the elaborate works of Martius, Griffith, Blume, and other botanists of eminence." Humboldt was the fillip of Louis Agassiz's trip to Brazil. Prescott wrote that he was guided "by the light of his researches" and added that he

missed Humboldt's hand in his study of Peru which lay just beyond Humboldt's fields.

Dr. de Terra's biography is a highly successful portrait (with a frame!) done in sepia with plunging strokes. This biography does not intend to be exhaustive as the good index will quickly demonstrate. There is still a genuine need for a full and documented biography along natural history lines, dressed for its immense potential reference value but blind to Brentano's show window. This unborn biography will integrate from the rich *reliquiae* of Humboldt letters around the world, identify their personalia, trace the intercourse across the Atlantic, from amateur to mentor and back again, all arrayed at finger-tip accessibility by a complete index. The botanical collector Benedict Roezl discovered a new lily in California in 1869 and as a centennial gesture it was named for Humboldt. How fitting that Humboldt's second centennial should be marked by an Olympian biography. Shall it be called "Prometheus Unbound"?—JOSEPH EWAN, TULANE UNIVERSITY, NEW ORLEANS, LA.

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ASCLEPIAS SYRIACA VAR. KANSANA IN NEW YORK STATE.—  
At the time of the 1952 meetings of the Botanical Society of America in Ithaca, New York, one of the local field trips planned for the Ecological Society included a stop northeast of Geneva on the east side of Seneca Lake. In the waste ground bordering the road was an extensive stand of *Asclepias syriaca* L. All gradations were observed from the essentially plain-surfaced fruits of forma *inermis* to the spiny-fruited var. *kansana* (Vail) Palmer & Steyermark. The collection data for the plants referred to var. *kansana* are "open ground bordering ditch along east side of highway 96 A, northeast of Geneva, on east side of Seneca Lake, Seneca Co., New York, September 11, 1952, Steyermark & Swink 74625." The range given for this spiny-fruited variety in Gray's Manual, eighth edition, is "Ia., Neb., Mo. and Kans." While Woodson in his recent monograph of the genus (Ann. Mo. Bot. Gard. **41**: 105–108. 1954) does not consider var. *kansana* to merit taxonomic rank, he does acknowledge the fact that the plants of the western states are *predominantly* spiny-fruited, while those of the eastern states